APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,167	07/22/2003	Leonard N. Schiff	000324 /QUALP802USA	8009

70/797   7590   03/24/2009
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EXAMINER
DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
03/24/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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		Application No.	Applicant(s)
Office Action Summary		10/625,167	SCHIFF ET AL.
		Examiner	Art Unit	
		RAYMOND S. DEAN	2618	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>14 January 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,2,4,6-21,24-38,41-49 and 52-59</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,2,4,6-21,24-38,41-49 and 52-59</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>22 July 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January

14, 2009 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1, 21, 38, 49 have been considered

but are moot in view of the new ground(s) of rejection.

        Gopalakrishnan et al. (US 2002/0110101), which like Patterson, teaches a

CDMA system wherein terminals adjust their data rates, teaches the feature of adjusting

a data rate, at the terminal, based at least in part on a determination made at the

terminal to adjust the data rate to correct for degradation of a reverse/return link signal

(Section 0016 lines 15 – 21).

        Patterson, as detailed in the Office Actions dated July 15, 2008, December 26,

2007, June 5, 2007, November 24, 2006, teaches the feature of adjusting a data rate for

a message sent from the terminal through the return link based on the change in the

return link signal quality without changing the interference relationship among the

plurality of terminals. The data rate is changed as opposed to the power thus enabling

the interference relationship among the plurality of terminals to be unchanged.

Examiner respectfully disagrees with Applicants' assertion on Page 16, 4th

Paragraph "Further, the applicants' representative has asserted that Lapaille teaches

away …". Lapaille also teaches a satellite system in which the quality of the link is

measured. It would thus have been obvious to one of ordinary skill in the art at the time

the invention was made to use the signal-to-noise ratio measurement of Lapaille as an

alternative means for measuring link quality. Examiner is using rationale (B), which is a

proper rationale according to MPEP 2143. Furthermore, "the prior art's mere disclosure

of more than one alternative does not constitute a teaching away from any of these

alternatives because such disclosure does not criticize, discredit, or otherwise

discourage the solution claimed…." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d

1141, 1146 (Fed. Cir. 2004). >See also MPEP § 2123.< .

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1 – 2, 4, 6 – 14, 21, 24 – 31, 38, 41 – 44, 48 – 49, and 52 – 56 are

rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. (US

2003/0050008) in view of Lapaille et al. (US 6,539,214) and in further view of

Gopalakrishnan et al. (US 2002/0110101).

Regarding Claims 1, 21, Patterson teaches a method comprising: identifying a

change in a return link signal quality at a gateway for a return link from a terminal

communicatively coupled to the gateway through a satellite, said return link being

shared by a plurality of terminals having an interference relationship (Sections: 0100 –

0101), wherein identifying the change in signal quality comprises identifying a change

that has occurred in a the return link from the terminal, and interpreting the change in

the link as indicating the change in the return link signal quality (Sections 0101, 0103);

receiving a feedback signal at the terminal from the gateway, said feedback signal

indicating at least one of the return link quality as measured at the gateway and the

change in the return link quality as measured at the gateway (Section 0101, the

negotiation of the rate between the terminals and the gateway comprise a feedback

signal indicating link quality and change in said link quality); adjusting a data rate, at

the terminal, for a message sent from the terminal through the return link based on the

change in the return link signal quality without changing link power levels and the

interference relationship among the plurality of terminals (Sections: 0100 – 0101, 0103,

See Response To Arguments above).

Patterson does not teach a signal-to-noise ratio and wherein identifying the

change in signal quality comprises identifying a change that has occurred in a signal-

to-noise ratio for the return link from the terminal, and interpreting the change in the

signal-to-noise ratio as indicating the change in the return link signal quality, and

adjusting a data rate, at the terminal, based at least in part on a determination made at

the terminal to adjust the data rate to correct for degradation of the return link signal.

Lapaille teaches identifying a change that has occurred in a signal-to-noise ratio

for a link and interpreting the change in the signal-to-noise ratio as indicating the

change in the link signal quality (Col. 1 lines 31 – 45, 5 lines 45 – 52).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Patterson with the signal-to-noise ratio of

Lapaille as a means for measuring the link quality as taught by Lapaille.

Gopalakrishnan, which like Patterson, teaches a CDMA system wherein

terminals adjust their data rates, teaches the feature of adjusting a data rate, at the

terminal, based at least in part on a determination made at the terminal to adjust the

data rate to correct for degradation of a reverse/return link signal (Section 0016 lines 15

– 21).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the above feature of Gopalakrishnan in the system of

Patterson in view of Lapaille as an alternative means for achieving the predictable

result of adjusting the data rate.

Regarding Claim 38, Patterson teaches an apparatus comprising: a comparator

identifying a change in a return link signal quality at a gateway for a return link from a

terminal communicatively coupled to the gateway through a satellite, said return link

being shared by a plurality of terminals having an interference relationship (Sections:

0100 – 0101); wherein identifying the change in signal quality comprises identifying a

change that has occurred in a the return link from the terminal, and interpreting the
change in the link as indicating the change in the return link signal quality (Sections
0101, 0103); and a data rate generator adjusting a data rate, at the terminal, for a
message sent from the terminal through the return link based on the change in the
return link signal quality without changing link power levels and the interference
relationship among the plurality of terminals (Sections: 0100 – 0101, 0103, See
Response To Arguments above); wherein the data rate generator receives a feedback
signal, at a terminal feedback input from the gateway, said feedback signal indicating
at least one of the return link quality as measured at the gateway and the change in the
return link quality as measured at the gateway (Section 0101, the negotiation of the
rate between the terminals and the gateway comprise a feedback signal indicating link
quality and change in said link quality).

Patterson does not teach a signal-to-noise ratio and wherein identifying the
change in signal quality comprises identifying a change that has occurred in a signal-
to-noise ratio for the return link from the terminal, and interpreting the change in the
signal-to-noise ratio as indicating the change in the return link signal quality, and
adjusting a data rate, at the terminal, based at least in part on a determination made at
the terminal to adjust the data rate to correct for degradation of the return link signal.

Lapaille teaches identifying a change that has occurred in a signal-to-noise ratio
for a link and interpreting the change in the signal-to-noise ratio as indicating the
change in the link signal quality (Col. 1 lines 31 – 45, 5 lines 45 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Patterson with the signal-to-noise ratio of Lapaille as a means for measuring the link quality as taught by Lapaille.

Gopalakrishnan, which like Patterson, teaches a CDMA system wherein terminals adjust their data rates, teaches the feature of adjusting a data rate, at the terminal, based at least in part on a determination made at the terminal to adjust the data rate to correct for degradation of a reverse/return link signal (Section 0016 lines 15 – 21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above feature of Gopalakrishnan in the system of Patterson in view of Lapaille as an alternative means for achieving the predictable result of adjusting the data rate.

Regarding Claim 49, Patterson teaches a machine readable medium having stored thereon machine executable instructions (Section 0027, the user terminal, satellite, and gateway all comprise processors that control the functions of said user terminal, satellite, and gateway, said processors run program code or machine executable instructions that are stored in memory) that when executed implement a method comprising: identifying a change in a return link signal quality at a gateway for a return link from a terminal communicatively coupled to the gateway through a satellite, said return link being shared by a plurality of terminals having an interference relationship (Sections: 0100 – 0101); wherein identifying the change in signal quality comprises identifying a change that has occurred in a the return link from the terminal,

and interpreting the change in the link as indicating the change in the return link signal quality (Sections 0101, 0103); receiving a feedback signal at the terminal from the gateway, said feedback signal indicating at least one of the return link quality as measured at the gateway and the change in the return link quality as measured at the gateway (Section 0101, the negotiation of the rate between the terminals and the gateway comprise a feedback signal indicating link quality and change in said link quality); and adjusting a data rate, at the terminal, for a message sent from the terminal through the return link based on the change in the return link signal quality without changing link power levels and the interference relationship among the plurality of terminals (Sections: 0100 – 0101, 0103, See also Response To Arguments above).

Patterson does not teach a signal-to-noise ratio and wherein identifying the change in signal quality comprises identifying a change that has occurred in a signal-to-noise ratio for the return link from the terminal, and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality, and adjusting a data rate, at the terminal, based at least in part on a determination made at the terminal to adjust the data rate to correct for degradation of the return link signal.

Lapaille teaches identifying a change that has occurred in a signal-to-noise ratio for a link and interpreting the change in the signal-to-noise ratio as indicating the change in the link signal quality (Col. 1 lines 31 – 45, 5 lines 45 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Patterson with the signal-to-noise ratio of Lapaille as a means for measuring the link quality as taught by Lapaille.

Gopalakrishnan, which like Patterson, teaches a CDMA system wherein
terminals adjust their data rates, teaches the feature of adjusting a data rate, at the
terminal, based at least in part on a determination made at the terminal to adjust the
data rate to correct for degradation of a reverse/return link signal (Section 0016 lines 15
– 21).

It would have been obvious to one of ordinary skill in the art at the time the
invention was made to use the above feature of Gopalakrishnan in the system of
Patterson in view of Lapaille as an alternative means for achieving the predictable
result of adjusting the data rate.

Regarding Claim 2, Patterson in view of Lapaille and in further view of
Gopalakrishnan teaches all of the claimed limitations recited in Claim 1. Patterson
further teaches wherein identifying the change and adjusting the data rate are
performed substantially at the same time by both a transmitter of the message and a
receiver of the message (Section 0101).

Regarding Claim 4, Patterson in view of Lapaille and in further view of
Gopalakrishnan teaches all of the claimed limitations recited in Claim 2. Lapaille
further teaches wherein the return link signal-to-noise ratio includes both thermal noise
and interference (Col. 1 lines 31 – 45, 5 lines 45 – 52, typical noise in a radio
environment comprises interference and thermal noise).

Regarding Claims 6, 24, 41, 52 Patterson in view of Lapaille and in further view
of Gopalakrishnan teaches all of the claimed limitations recited in Claims 2, 21, 38, and
49. Patterson further teaches measuring a forward link quality at the terminal for a

forward link from the gateway through the satellite to the terminal; and approximating the return link quality at the gateway based on the forward link quality (Sections: 0101, 0103, the link conditions include the condition or quality of the forward link).

Regarding Claims 7, 25, 42, 53 Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 2, 21, 38, and 49. Patterson further teaches reducing the data rate if the return link quality has fallen below a first threshold; and increasing the data rate if the return link quality has risen above a second threshold (Sections: 0101, 0103).

Regarding Claims 8, 54, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 2, 49. Patterson further teaches transmitting a bit of the message for a longer duration of time to reduce the data rate; and transmitting a bit of the message for a shorter duration of time to increase the data rate (Sections: 0101, 0103, lower data rates comprise transmitting bits for a longer duration and higher data rates comprise transmitting bits for a shorter duration).

Regarding Claim 9, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claim 2. Patterson further teaches adjusting the data rate to one of a set of discrete data-rate-to-carrier-bandwidth ratios (Sections: 0101, 0103, the carrier will be modulated with an information signal, which is transmitted at a particular data rate, thus providing a signal with a particular bandwidth, each data rate will therefore correspond to a particular data-rate-to-carrier-bandwidth-ratio).

Regarding Claims 10, 26, 30, 43, 55 Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 1, 21, 38, and 49. Patterson further teaches transmitting a bit of the message for a longer duration of time to reduce the data rate; and transmitting a bit of the message for a shorter duration of time to increase the data rate (Sections: 0101, 0103, lower data rates comprise transmitting bits for a longer duration and higher data rates comprise transmitting bits for a shorter duration).

Regarding Claims 11, 27, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 1, 21. Patterson further teaches applying a higher coding rate to bits of the message to increase the data rate; and applying a lower coding rate to bits of the message to reduce the data rate (Section 0101).

Regarding Claims 12, 28, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 11, 27. Patterson further teaches transmitting a bit of the message for a longer duration of time to reduce the data rate; and transmitting a bit of the message for a shorter duration of time to increase the data rate (Sections: 0101, 0103, lower data rates comprise transmitting bits for a longer duration and higher data rates comprise transmitting bits for a shorter duration).

Regarding Claims 13, 29, 31, 56 Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 1, 21, 49. Patterson further teaches adjusting the data rate to one of a set of discrete data-rate-

to-carrier-bandwidth ratios (Sections: 0101, 0103, the carrier will be modulated with an information signal, which is transmitted at a particular data rate, thus providing a signal with a particular bandwidth, each data rate will therefore correspond to a particular data-rate-to-carrier-bandwidth-ratio).

Regarding Claim 14, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claim 1. Patterson further teaches code division multiple access (CDMA) channel (Section 0100).

Regarding Claim 44, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claim 38. Patterson further teaches encoding a bit of the message at a higher coding rate to reduce the data rate; and encode a bit of the message at a lower coding rate to increase the data rate (Section 0101).

Regarding Claim 48, Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claim 38. Patterson further teaches comparing a current data-rate-to-bandwidth ratio for the message to a threshold data-rate-to-bandwidth ratio (Sections: 0100 – 0101, 0103, the carrier will be modulated with an information signal, which is transmitted at a particular data rate, thus providing a signal with a particular bandwidth, each data rate will therefore correspond to a particular data-rate-to-carrier-bandwidth-ratio, in order to maintain link availability there will be a data-rate-to-carrier-bandwidth threshold that will need to be met thus there will be comparisons between the current data-rate-to-bandwidth, which is a part of the current link conditions, and said threshold).

5.   Claims 17 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Patterson et al. (US 2003/0050008) in view of Lapaille et al. (US 6,539,214) in view

of Gopalakrishnan et al. (US 2002/0110101), as applied to Claims 1, 21 above, and

further in view of Hogberg et al. (US 6,198,730).

       Regarding Claims 17, 34, Patterson in view of Lapaille and in further view of

Gopalakrishnan teaches all of the claimed limitations recited in Claims 1, 21. Patterson

further teaches a messaging time slot among a plurality of time slots in each of a series

of time frames (Section 0100).

       Patterson in view of Lapaille and in further view of Gopalakrishnan does not

teach initiating the message at a random point within a particular messaging time slot.

       Hogberg teaches a messaging time slot among a plurality of time slots in each of

a series of time frames, the method further comprising initiating the message at a

random point within a particular messaging time slot (Column 4 lines 5 – 9, the CDMA

time slots are the messaging time slots, said time slots allow initiation of messages at

random points within said time slots).

       It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the TD-CDMA air interface as an alternative means for

supporting multiple subscribers as taught by Hogberg.

6.   Claims 15 – 16, 18 – 20, 32 – 33, 35 – 37, 45 – 47, and 57 – 59 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. (US 2003/0050008)

in view of Lapaille et al. (US 6,539,214) in view of Gopalakrishnan et al. (US

2002/0110101), as applied to Claims 1, 21, 38, 49 above, and further in view of Xie et
al. (US 6,781,978).

Regarding Claims 15, 32, 45, 57 Patterson in view of Lapaille and in further view
of Gopalakrishnan teaches all of the claimed limitations recited in Claims 1, 21, 38, and
49. Patterson further teaches a messaging time slot among a plurality of time slots in
each of a series of time frames (Section 0100).

Patterson in view of Lapaille and in further view of Gopalakrishnan does not
teach suspending the message if a current messaging time slot in a current time frame
expires before the message is complete; and resuming the message in a subsequent
messaging time slot in a subsequent time frame.

Xie teaches suspending the message if a current messaging time slot in a
current time frame expires before the message is complete; and resuming the
message in a subsequent messaging time slot in a subsequent time frame (Cols. 4
lines 43 – 67, 5 lines 1 – 13).

It would have been obvious to one of ordinary skill in the art at the time the
invention was made to modify the system of Patterson in view of Lapaille and in further
view of Gopalakrishnan with the features of Xie for the purpose of minimizing message
collisions without degrading channel utilization efficiency as taught by Xie.

Regarding Claims 16, 33, 58 Patterson in view of Lapaille in view of
Gopalakrishnan and in further view of Xie teaches all of the claimed limitations recited
in Claims 15, 32, 57. Xie further teaches resuming the message at a beginning of the

subsequent messaging time slot in the subsequent time frame (Cols. 4 lines 43 – 67, 5 lines 1 – 13).

Regarding Claims 18, 35, 46, 59 Patterson in view of Lapaille and in further view of Gopalakrishnan teaches all of the claimed limitations recited in Claims 1, 21, 38, and 49. Patterson further teaches wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames (Section 0100).

Patterson in view of Lapaille and in further view of Gopalakrishnan does not teach determining that the message will span more than a particular number of durations of a messaging time slot; and transmitting the message beyond an end of a messaging time slot in a particular frame until the message is complete.

Xie teaches determining that the message will span more than a particular number of durations of a messaging time slot; and transmitting the message beyond an end of a messaging time slot in a particular frame until the message is complete (Cols. 4 lines 43 – 67, 5 lines 1 – 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Patterson in view of Lapaille and in further view of Gopalakrishnan with the features of Xie for the purpose of minimizing message collisions without degrading channel utilization efficiency as taught by Xie.

Regarding Claims 19, 36, 47, Patterson in view of Lapaille in view of Gopalakrishnan and in further view of Xie teaches all of the claimed limitations recited in Claims 18, 35, 38. Xie further teaches comparing a duration of the message at the

current data rate to a length threshold, said length threshold comprising the particular

number of durations (Cols. 4 lines 43 – 67, 5 lines 1 – 13).

Regarding Claims 20, 37 Patterson in view of Lapaille and in further view of

Gopalakrishnan teaches all of the claimed limitations recited in Claims 18, 35.

Patterson further teaches comparing a current data-rate-to-bandwidth ratio for the

message to a threshold data-rate-to-bandwidth ratio (Sections: 0100 – 0101, 0103, the

carrier will be modulated with an information signal, which is transmitted at a particular

data rate, thus providing a signal with a particular bandwidth, each data rate will

therefore correspond to a particular data-rate-to-carrier-bandwidth-ratio, in order to

maintain link availability there will be a data-rate-to-carrier-bandwidth threshold that will

need to be met thus there will be comparisons between the current data-rate-to-

bandwidth, which is a part of the current link conditions, and said threshold).

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to RAYMOND S. DEAN whose telephone number is

(571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/
Examiner, Art Unit 2618
Raymond S. Dean
March 17, 2009